Street Hauntings: Digital Storytelling in Twenty-First Century Leisure Cultures

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'The Street … the only valid field of experience' (André Breton)

Introduction

Stories are at the heart of how we understand the world. They allow us to pass on knowledge in a way that is at once personal and subjective while at the same time rooted in the wider world. It has even been argued they lie at the very heart of consciousness itself, what Jameson (1981) called the 'central function or instance of the human mind' (p.13). From this ontological position, concepts such as 'place' are no longer fixed and stable. Instead, they are 'created through performance' (Crang and Coleman, 2004, p. 1), where performance describes both the physical interaction of the body with the external world and cognitive sense-making. This notion of the active construction of experience provides a key theoretical underpinning for this chapter. Critical here is the degree to which stories not only augment existing perceptions of the world but also facilitate new ways of understanding.

This need for adaptation and change, for the radical and transgressive, has become ever more significant as cities across the globe come under new challenges and pressures. Population growth, ecological impact and social unrest are just some of the issues placing enormous strain on communities and governments. As the United Nations Population Fund (UNFPA, 2007) recognises, urbanisation remains one of the world's most pressing issues. But if there are challenges, then there are also opportunities. The technology company, Ericsson, estimates that the number of mobile phones in Africa will rise to 930m by 2019, almost one per African (Economist, 2015). In the United Kingdom, eighty per cent of households are

already connected to the Internet (Economist, 2014). In the first quarter of 2014, sixty-one per cent of UK adults owned a smartphone (Ofcom, 2014).

Understanding the potential that such technologies afford society is an imperative recognised by an increasing number of global organisations. Yet, as the collection of chapters in this volume demonstrates, a tension exists here. On one side is the view that technologies simply extend systems of control and hegemonic surveillance. On the other, digital technology is seen as supporting what de Waal (2014) calls the 'libertarian urban ideal' (p.11). This chapter offers insight into these debates. A particular focus is on the degree to which digitally-enhanced leisure activities can change the way the urban environment is itself experienced. The outputs of two research projects are discussed which have specifically examined the role that digital storytelling can play in this process, both in terms of the creation of stories, but also as a means by which the physical journey through the city itself can be re-envisioned. It will be argued that such narrative construction can be understood as a transgressive form of 'mapping', a re-haunting of our cityspace in which the evocation of 'the past' remains a significant feature.

Digital Technology and the City

Contemporary anxieties about the social and cultural impact of urbanisation are just the most recent in a long line of concerns in which notions of 'belonging' and 'community' are seen to be undermined. Simmel (1997), for example, saw the modern nineteenth-century metropolis as characterised both by strangers and by the experience of 'shock'. And as Jacobs (1961) noted, '...cities are, by definition, full of strangers. To any one person, strangers are far more common in big cities than acquaintances' (p.40). Whereas, historically, cities were seen as

having a clear centre around which the urban form radiated (Sassen, 1991), modern cities came to be characterised more by their lack of identifiable centres: 'We live ... in an exploding universe of mechanical and electronic invention…This technological explosion has produced a similar explosion of the city itself: the city has burst open...' (Mumford 1973, p.45). Fishman (1994) is even more dogmatic, suggesting that 'The new city … lacks what gave shape and meaning to every urban form of the past: a dominant single core and definable boundaries' (p.398). The result is a new kind of space, neither city nor countryside, what Ferrarotti calls 'an urban-rural continuum' (1994, p.463), a city without a place, 'ageographical' to use Sorkin's description (1992, p.xi), or Soja's 'postmetropolis' (2000, p.95).

This radical development in both the form of cities and the lives of its citizens has become a global phenomenon. China already has 160 cities with a population of over a million. Of these, five have metropolitan areas with more than ten million people. Yet, as the UNFPA (2007) recognise, population growth will be greatest in smaller towns and cities, predominantly in Asia and Africa. A global imperative now exists to understand how citizens can live successfully and sustainably in these new urban centres. Although still in its infancy, there is a growing body of research focussed on the role that digital technology might be able to play in this process. Although some of this draws on the experiences of Europe and America, it is important to note the work being done elsewhere, such as Wong and Ling's (2011) analysis of digital interactions between 'poor urban youth' in Bangladesh. What characterises a lot of this research, however, is its exploration of how digital technology can support what might be termed 'playful' interaction with a particular urban environment. Indeed, as Crawford (2013) notes, new technology has impacted 'nowhere more visibly than in terms of leisure patterns and practices' (p.568).

Yet the impact of digital technology is not without controversy. For some, digital media is just the latest in a long series of iniquitous socio-economic reconfigurations of city space. Virilio (1991), for example, sees a loss of coherence as central to this, a growing urban illegibility, a process reinforced by electronic media in the creation of 'accidental, discontinuous and heterogeneous space' (p.35). Yet for others, the picture is not so bleak. Both McQuire (2008) and de Waal (2014) celebrate the benefits that digital technology can bring. For them, 'augmented reality', 'mixed reality' and 'augmented space' are concepts to be embraced, enhancing citizen engagement and choice. de Waal in particular champions the use of the smartphone as 'an intelligent compass' (2014, p.9) allowing the citizen to digitally interact with his or her environment. This chapter provides one small step in furthering our understanding of this relationship between digital participation and playfulness, or what Williams and Mascioni (2014) call 'digital out-of-home entertainment' (p.xi).

Of course, one should not simplify the impact that digital technology will have on our lives. The increasing speed of our 'connectedness', what Scheuerman (2009) calls 'social acceleration', needs to be explored. The home has become an interactive node, permanently online, blurring the boundaries between place and experience, self and stranger. Technological speed and ubiquitous connectivity has therefore affected our relationship to space in fundamental ways. One important aspect of this is how digital technology undermines notions of locality, proximity and distance. Through a smartphone, for example, we can just as easily be connected to someone or something on the other side of the world as we can to those things within our immediate physical vicinity. McQuire adopts the term *relational space* to help explain this phenomenon, 'in which the horizon of social relationships has become radically open' (2008, p.22), breaking down previous restraints of place and time. The critical debate is perhaps here. If digital technology prioritises an *other-*

orientated and heterotopic understanding of space, how can it also support our own emotional attachment to the physical space around us? And what might that attachment actually look like? Ben-Ze'ev's (2015) work with young people in Israel-Palestine, in particular the relationship between mental maps and spatial perception, reminds us that this is no simple academic exercise. Behind this lay significant global issues to which this chapter, in its own small way, provides some tentative insights.

Digital Storytelling and the City

In their discussion of digital leisure culture, Williams and Mascioni (2014) note the rise of what they call digital out-of-home entertainment (DOE):

> Perhaps one of the most significant trends affecting the DOE market is the growing convergence between real and virtual experiences, afforded by such interactive forms as mobile AR [augmented reality], location-based games and social media. New technologies, such as smartphones, and new consumer habits are hastening the increasing convergence of the interactive consumer and DOE markets in public places, and much greater convergence is likely to spawn huge opportunities in the next decade (p.160).

A significant part of this new leisure activity is digital storytelling, with user-generated content and personalised interactivity becoming increasingly important (Williams and Mascioni, 2014). The ability to create and share on the fly, as one moves through the city, 'adds life to tourism by highlighting the interplay between movement and materiality as people navigate themselves from one place to the next' (Palmer and Lester 2013, p.240). Yet these technological interventions are not just entertainment. Instead, such 'urban media', as

de Waal (2011) calls them, are also central to the creation of ‘place’ itself. As the use of digital technology proliferates, the city is becoming a hybrid, its space constituted through both the digital and the physical worlds, forming a new urban form.

This new urban form involves both a reconfiguring of the physical environment (space) as well as the subjective constructions that arise from it (place). It is here, in the interplay between space and place, that narrative maintains a key role, one that predates the rise of digital texts. Perhaps this should not surprise us. Miller (1995) has argued that every story can be considered to be a map of some kind, in which the spatial architecture of places, dwellings, paths and roads is encoded. For Azcárate (2014), the physical city is also a story, one constructed from countless number of individual human acts. Zhang (1996) takes this further, arguing that the city is in essence a ritualised collection of customs and traditions. Lynch (1960) used the term ‘wayfinding’ to describe the process of navigating through the ‘vast sprawl of our cities’ (p.12), mentally reconfiguring the urban form through the ongoing creation of stories.

Such stories are conjured through the spatial practices of its citizens, the physical and subjective performance that reflects our lives. As these narratives are constructed, second by second, then so too is the cityspace around us. Our interaction with the environment is therefore critical in terms of how we understand and experience it. Yet, as this chapter demonstrates, it also offers the potential for change and adaptation. Prieto (2013), for example, reminds use that narratives can also be radical and transgressive, helping to 'change the ways their readers view the world … making possible new ways of understanding what is actually there' (p.9). As we’ve seen, cities across the globe are facing unprecedented social

challenges. This chapter argues that narrative performance will play an important role in helping these communities find sustainable solutions to these pressures.

One key area where narrative performance or 'storifying' can make a significant intervention is in the mediation of 'past' and 'present'. How the city is experienced is not just a spatial phenomenon but one that has also an important temporal dimension. de Certeau noted the importance of what he called 'verbal relics', superstitions, myths and legends – in effect, old stories that have slowly accumulated in a place. de Certeau saw that, in this way, all places are 'haunted' by the past; in fact 'haunted places are the only ones people can live in' (De Certeau, 1984, p.108). It is this very haunting of space by stories that allows a place to become 'home' (1984, p.106); without them the habitable city becomes annulled.
These ideas have attracted academic interest. In particular, there is concern about the gap between individual and community memory, and what might be termed official or authorised history. Rosenberg (2012), in her study of Berlin, notes that places remain continually haunted by past meanings and artefacts (p.131) and, as Huyssens (2008) has shown, cultural and collective memory can become highly politicised as a consequence. For Edensor (2005), the exploration of 'haunted' sites continues to remain attractive because such places stand outside of any authorised attempt at establishing official 'history'. As he notes, 'the objects, spaces, and traces found in ruins highlight the mystery and radical otherness of the past, a past which can haunt the fixed memories of place proffered by the powerful' (Edensor 2005, p.847).

This chapter argues that it is the ability to map this subjective interplay between past and present that remains a key aspect of digital storytelling. Concepts such as 'relational space' provide clues as to how such digital interventions might offer a real-time interplay between

the physical exploration of the 'here', overlaid with the digital exploration of the 'absent'. And through that process generate new stories and understandings of twenty-first century cityspace.

Digital Storytelling: Two Examples

Two digital projects, both funded by *Creative Exchange Wales Network* (CEWN), provide the empirical component of this chapter. These projects build on earlier work that has explored the creative leisure opportunities afforded by digital storytelling. *Ghosts in the Garden* (http://old.react-hub.org.uk/heritagesandbox/projects/2012/ghosts-in-the-garden/) (2012), *City Strata* (http://old.react-hub.org.uk/heritagesandbox/projects/2012/city-strata/) (2012) and *I Tweet Dead People* (http://old.react-hub.org.uk/heritagesandbox/projects/2012/the-ivory-bangle-lady/journal/i-tweet-dead-people/) (2012), all funded through *REACT* (Research and Enterprise in Arts and Creative Technology, an *AHRC*-funded Knowledge Exchange Hub) are important in their exploration of the interplay between digital technology and storytelling. Projects such as *Linking the Chain: A Network for Digital Heritage in Wales* (http://gtr.rcuk.ac.uk/projects?ref=AH/H033807/1) (2010) have shown ways that storytelling can be used within a digital heritage context. And *These Pages Fall Like Ash* (http://old.react-hub.org.uk/books-and-print-sandbox/projects/2013/these-pages-fall-like-ash/) (2013) pushed the boundaries of storytelling by inviting readers to visit physical locations, locating digital fragments and uploading their own responses. In their exploration of location-based interactive narratives, Paay and Kjeldskov (2011) note the immersive nature of augmented reality when played out across a city. von Jungenfeld (2014) explores the project *Walking Through Time* which uses the superimposition of historical maps on a smartphone app to

guide users around Edinburgh. She notes how digitally-layered mapping returned the 'map' to historical, mythical and encyclopaedic representations of space, as encapsulated by medieval maps such as the Mappae Mundi (von Jungenfeld 2014).

Even authors themselves are increasingly intrigued by the potential offered by digital storytelling. Koehler (2013) examines how Twitter stories such as Rick Moody's 'Some contemporary characters' (2010) and Jennifer Egan's 'Black box' (2012) explore what he calls 'new ways of understanding craft as a synthesis of readers' affect and participation in an unfolding narrative' (Koehler 2013, p.387). In this sense then, the two projects examined here can be understood to be building on a range of earlier work concerned with the interplay between physical and digital exploration. The first, *Walkways and Waterways* (2013), was a collaborative project involving Cardiff Metropolitan University, the University of South Wales and the digital media startup, *Fresh Content Creation*. The purpose of the project was to explore how creative exploration, mediated through mobile technology, could help users re-explore their own city, in this case the Welsh capital, Cardiff (one of twenty-two cities included in the UK Government's 'SuperConnected Cities' programme). The event consisted of a digitally-mediated journey, retracing the last two miles of the Glamorganshire Canal, from Cardiff Castle to the Bay. The Canal itself fell into ruin soon after the Second World War and has long since been removed. Retracing it through the centre of the city involved traversing a variety of terrains, including a large modern shopping centre, before finishing at the location of the canal's old sea lock, beneath the A4232 flyover. The event was advertised through social media. Twenty participants attended, ranging from young children to the retired. While the physical journey was led by project members, exploration was digitally augmented by Twitter through which further guidance and information was given in real-time. The smartphone allowed each participant to upload photographs and commentary to

#GlamCan, providing a shareable, real-time forum through which every individual itinerary could be recorded. Embedded within the walk were twelve 'treasures', forming a 'treasure trail'. In this way, *Waterways and Walkways* employed real-time gaming and 'play' as a way of enhancing participation and engagement. Tweets sent by the project team prompted participants to both find and then record the next 'treasure'. Sometimes, as in the case of the marooned paddle post in the subway beneath the A470, participants were invited to discuss its function (see image 1).

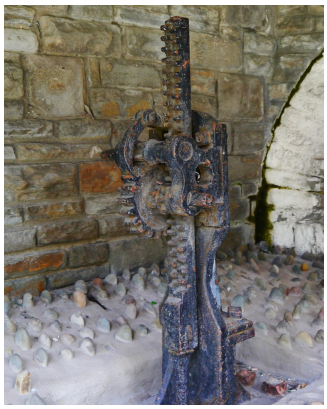

Image 1: Paddle Post in the subway under the A470 (Source: author)

The use of the smartphone within the project recalls de Waal's (2014) notion of 'an intelligent compass, guiding the city dweller through the bustle and chaos of everyday life' (p.9). Each participant recorded their own journey which was then shared in real time across Twitter. The writing was clearly not what might be considered to be a traditional piece of prose, a single block of crafted text. Instead, it consisted of a series of tweets (short textual responses limited to 140 characters, including spaces) through which each participant captured their mood and thoughts but also responses to the pre-planned questions and prompts as they navigated from treasure to treasure. In other situations, the limitations of a

tweet might be considered unnecessarily restrictive. Yet, out on the street, the brevity and concision imposed by the medium became a strength. Two further aspects of Twitter enhanced the creative responses. First, each tweet offered the opportunity to add up to four photographs taken on the smartphone. This allowed the participants to explore the interplay between text and image as they progressed along the path of the canal, a simple yet powerful augmentation of their creative output. Secondly, each tweet became part of a single, collective narrative on *#GlamCan*, a real time amalgamation of over twenty stories that each participant could access alongside their own individual record.

The smartphone was able to support the event in a number of ways that a more traditional format could not. As well as an intelligent compass, de Waal notes how a smartphone also operates as an 'experience marker', recording and sharing experiences, and a 'territory device', influencing the subjective experience of an urban area (p.19). Both these features were evident in *Waterways and Walkways*. The technology allowed real-time mapping across Cardiff using the phone's global positioning system (GPS). It also provided a means of geographically triggering audio, video and images, augmenting the physical experience of the contemporary city with historical photographs, records and testimony. As 'territory devices' the smartphones were able to digitally link stories to the historical legacies of specific sites. And lastly, the phones allowed each participant to record and post their own creative responses through Twitter, and then to read each others, as the journey progressed.

Neuhaus (2014) notes how his own mapping of Twitter activity across a number of smart cities, including New York City and London, produced parallel virtual landscapes, created through the narrative activity of the cities' populations. In *Waterways and Walkways* stories emerged on Twitter but they were also generated verbally as the participants moved along the

route. At one point, beside the extant post of a crane on what would have been the Sea Lock Pound (image 2), one of the participants began to sing a sea shanty, evoking the life of the stevedores and bargemen who had worked on the canal. The author's role consisted of leading the group along the path of the canal. Qualitative data consisted of the tweets themselves as well as verbal feedback gathered during the course of the walk. Quantitative data was collected through the metrics available through Twitter and from a questionnaire distributed to all participants at the end of the walk. Participants were also asked to review their experiences and submit them through an online survey after the event. The author's position as both researcher and walk-leader was therefore ameliorated by the triangulation of this qualitative and quantitative data. Although the conclusions can only be tentative at this stage, there is enough evidence to suggest that by the end of the journey the participants had engaged with each other both physically and digitally, and through that interaction had begun to reconfigure their relationship to the spaces of the city and its citizens. The qualitative data in particular records how the exploration helped participants see the city in new and interesting ways. Two examples will suffice. Participants described how passage through the shopping centre allowed them to experience it in a new way, released from the role of customer or consumer. Feedback recorded that being asked what we were doing by the centre's security guard was a particular highlight. And secondly, one participant did the walk again a few days later, with their children, something the project team was unaware of until they saw the Twitter feed.

Image 2: Extant Crane Post in Canal Park (Source: author)

The second project, *People's Journeys*, was undertaken in Cardiff in the autumn of 2014 and involved a collaboration between the author and a small enterprise (*Centre for Creativity Ltd*). The project sought to explore the intersection between storytelling and cityspace, de Certeau's 'space of enunciation', through the creation of digitally-mediated 'journeys'. These dérives were deliberately transgressive, community-generated journeys reflecting local experiences and places. To do this the project set out to record individual narratives across a discrete locale, electronically tagging them to specific locations. The users of the *People's Journeys* app would be able to re-trace these 'journeys' using a mobile phone to engage with audio, image and video, in effect creating their own 'journey' or 'storyspace' as they moved across the city. Given the limited nature of the project, it was decided to start with a series of discrete narratives relating to the First World War. Drawing on various community members through the local history society, the project team identified and then recorded nine biographical stories, each of a soldier killed in the Great War from a single district in Cardiff. These recordings were co-scripted and recorded by community members. Images and video were again sourced by the local community, overseen by the project team.

The app itself was built using the *AppFurnace* mobile application development platform.

These narratives were brought together by the app to create the first of what ultimately was conceived as a limitless number of ‘journeys’ crisscrossing a community. It was decided that the start of the ‘journey’ should be the war memorial in the local park (see image 3). The app incorporated a live Twitter feed through which participants could leave textual responses and photographs. The project team used an *experience design framework*, which stresses the importance of iteration in terms of the design of prototypes. At key stages the app was trialled by community representatives and their feedback integrated into the final version. The app was published on both Google Play and Apple’s App Store. Some of the locations used in the app are buildings associated with the soldiers’ lives though certain locations have been demolished. Photographs and community memory are able to bring such places back into existence as the user journeys across the city.

In this sense the project was an overt exploration of McQuire’s concept of relational space. Yet it was also an exploration of how digital technology can help address issues of alienation and community estrangement. In its own small way, the app facilitated the physical and emotional reattachment of citizens to the space around them through the exploration of stories. Yet, by moving from story to story, each participant created their own unique narrative. The smartphone in this case really was an intelligent compass, helping to navigate each user both physically along the streets, but also temporally, through links to audio-visual material, historical photographs and text. In that sense, the user navigated the hybrid space of here and ‘other’, the other being that which has been lost, the digital hauntings of voice, place and image.

Image 3: The start of the journey, The Grangetown War Memorial (Source: author)

Conclusion

This chapter has discussed two projects which have specifically explored the use of digital storytelling as part of twenty-first century leisure cultures. Key here has been the use of pervasive connectivity, something that is not without controversy. As Crang and Graham (2007) warn, embedded within the everyday life of what they call 'sentient cities' is a 'politics of visibility' in which the freedom of individuals is both increasingly anticipated and regulated by 'sentient systems' (p.789). Edensor (2005) notes that official sites of memory will always 'rely on pervasive spatial regulation for their power' (p.831). If technological devices such as the smartphone are to be used effectively, and if walking itself is to remain what Rosenberg (2012) calls a transformative encounter (p.132), then the technology itself must ensure that digital storytelling and the leisure practices they support do not themselves become part of a growing technological network of regulation and surveillance.

Yet, it is also clear that smartphones, and the technological infrastructure of the modern city, is not going to disappear any time soon. Ben-Ze'ev's (2015) analysis of spatial perception in Palestine, and Wong and Ling's (2011) study of mobile interactions among the urban poor in Bangladesh, are indicative of the global interest in the potential offered by digital technology. Decisions about what is remembered and what is forgotten by any society are not neutral actions. As Urry notes (1998, p.50), 'forgetting is as socially structured as is the process of remembering'.

This chapter has shown how digital technology can be utilised to support bottom-up, community-based 'landscapes of memory'. Both *Waterways and Walkways* and *People's Journey's* involved disruptive and oppositional events, taking users on a dérive well beyond the parameters of any official or authorised tour. Both walking and storifying remained important elements for both projects, in what amounted to a personalised remapping of a cityspace. As Selby (2004) notes, 'these "landscapes of memory" are not constructed out of national historical facts, but out of the local, contextual, everyday life of visitors' (p.57). Over the course of this chapter some of the key features of digital storytelling have begun to emerge. Critical is the degree to which the technology can support an understanding of place as embodied performance (Coleman and Crang, 2004). Crouch (2004) calls tourism nothing more than the 'embodied practice of space' (p.208) and the two projects discussed here suggest that a recourse to the digital can have a significant impact on how an individual engages with the environment around them. As Sheller and Urry (2004) note, 'the playfulness of place is in part about the urge to travel elsewhere' (p.1). Yet that 'elsewhere' need not be a geographically 'new location'. Digitally-enhanced playfulness embraces the ability to see old places anew and in different ways, especially for those already living within those communities.

The mobility of the smartphone through a wi-fi enabled cityspace is critical here, as is the ability to engage with multimedia, including sound and image. Social media platforms, such as Twitter, facilitate the real time sharing of content while the GPS function allows real time location positioning, but also the geo-spatial tagging of content. This facilitates the physical walking of a journey (a traditional spatial mapping) but also the geo-spatial mapping of emotion, thought and memory. de Waal's two uses for the smartphone, 'experience markers' and 'territory devices', perhaps requires a third, 'temporal devices', in which the participants are able to tag their stories to objects and urban features that have long since been removed.

As we've seen, one of the key features of McQuire's 'relational space' is the concept of being both 'here' and 'other'. Such a dichotomy exists as part of any digital intervention, where the user has a presence in the physical world, but also a focus on a 'digital' that is always 'absent'. Yet this chapter has shown that it also embraces the ability of digital media to interweave the past and present in a way that augments reality. As Tenedório and Rebelo (2014) state, 'An AR [augmented reality] system expands the real world scene (requiring the user to maintain the sense of presence in that world, as opposed to a total immersive virtual world)' (p.221). Yet such virtual spaces are innovative not only because of their enhanced leisure opportunities. As Lester and Scarles note in their analysis of leisure and tourism, virtuality is also important because of its ability to offer individuals a space through which 'to present themselves and their travel experiences to others' (2013, p.263).

This chapter has also shown that bottom-up, community-based approaches to digital media can have a powerful role. The creative responses captured by Twitter on the navigation of the lost Glamorganshire Canal in *Walkways and Waterways*, and the production and use of the

soldiers' stories for *People's Journeys*, highlight the importance that 'the past' can play in any transgressive spatial practice. As Till (2005) notes on the politics of memory in Berlin, 'places are not only continuously interpreted; they are haunted by past structures of meaning and material presences from other times and lives' (p.9). Sheringham (2010) states that 'a city is a memory machine' (p10), and, for de Certeau too, the city is built on what is no longer there. Writers such as W. G. Sebald and Iain Sinclair make us aware that the past is never truly expunged from the high street but lurks ghost-like in its shadows. In this sense we are always amongst the ruins of what has gone before, both in physical space but also in human memory. This chapter suggests that it is digital media's ability to reconnect these two phenomena, to re-attach memory to the lost physical places of our cityscapes, that remains one of its strongest features.

References

Azcarate, A. (ed.) (2014) *Cityscapes: World Cities and Their Cultural Industries*. Champaign, Illinois: Common Ground Publishing. [Kindle File].

Ben-Ze'ev, E. (2015) Mental Maps and Spatial Perceptions: The Fragmentation of Israel-Palestine. In Roberts, L. (ed.) *Mapping Cultures: Place, Practice, Performance*. London: Palgrave Macmillan, pp237-259.

de Certeau, M.,(1984) *The Practice of Everyday Life*. Berkeley, CA: University of California Press.

Coleman, S. and Crang, M. (2004) Grounded Tourists, Travelling Theory. In Coleman, S. and Crang, M. (eds.) *Tourism: Between Place and Performance*. Oxford: Berghahn Books,

pp1-17.

Crang, M. and Graham, S. (2007) Sentient Cities: Ambient intelligence and the politics of urban space. *Information, Communication and Society*, 10 (6), pp789-817.

Crawford, G. (2013) Virtual Leisure. In Blackshaw, T. (ed.) *Routledge Handbook of Leisure Studies*. London: Routledge, pp560-570.

Crouch, D. (2004) Surrounded by Place: Embodied Encounters. In Coleman, S. and Crang, M. (eds.) *Tourism: Between Place and Performance*. Oxford: Berghahn Books, pp207-218.

The Economist (2014) Cybercrime: Thieves in the night. *The Economist*, 20th December, p.35.

The Economist (2015) The Pioneering Continent. *The Economist*, 25th April, p.45.

Edensor, T. (2005) The Ghosts of Industrial Ruins: Ordering and Disordering Memory in Excessive Space. *Environment and Planning*, 23, pp829-849.

Ferrarotti, F. (1994) Civil Society as a polyarchic form: the city. In Kasinitz, P. (ed.) *Metropolis: Centre and Symbol of Our Times*. London: Macmillan, pp450-468.

Fishman, R. (1994) Megalopolis unbound. In Kasinitz, P. (ed) *Metropolis: Center and symbol of our times*. London: Macmillan, pp395-412.

Foth, M., Forlano, L., Satchell, C. and Gibbs, M., eds., 2008. *Handbook of Research on Urban Informatics: The Practice and Promise of the Real-Time City*. Hershey, PA: Information Science Reference, IGI Global.

Gordon, E. (2008) Towards a Theory of Networked Locality. *First Monday* [online], 13 (10). Available from: http://firstmonday.org/article/view/2157/2035 [Accessed 8 August 2015].

Harvey, D. (1990) *The Condition of Postmodernity: An Enquiry into the Origins of Cultural Change*. Oxford: Blackwell.

Huyssens, A. (ed.) (2008) *Other Cities, Other Worlds: Urban Imaginaries in a Globalizing Age*. Durham, N.C.: Duke University Press.

Jacobs, J. (2000) [1961]. *The Death and Life of Great American Cities*. London: Pimlico.

Jameson, F. (1981) *The Political Unconscious: Narrative as a socially symbolic act*. Ithaca, NY: Cornell University Press.

von Jungenfeld, R. (2014) Exploring the changing texture of the city. In Azcarate, A. (ed.) *Cityscapes: World Cities and Their Cultural Industries*. Champaign, Illinois: Common Ground Publishing [Kindle File], pp394-407.

Koehler, A. (2013) Digitizing Craft: Creative Writing Studies and New Media: A Proposal. *College English*, 75 (4), pp379-97.

Lester, J., and Scarles, C. (2013) Mediating Tourism: Future Directions? In Lester, J., and Scarles, C. (eds.) *Current Developments in the Geographies of Leisure and Tourism : Mediating the Tourist Experience : From Brochures to Virtual Encounters*. Brookfield, VT: Ashgate Publishing Ltd, pp255-269.

Lynch, K.1(960) *The Image of the City*. Cambridge, MA: MIT Press.

McQuire, S. (2008) *The Media City: Media, Architecture and Urban Space*. London: Sage.

Miller, J. H. (1995) *Topographies*. Stanford: Stanford University Press.

Mumford, L. (1973) *The City in History*. London: Harmondsworth.

Neuhaus, F. (2014) The Use of Social Media for Urban Planning: Virtual Urban Landscapes Created Using Twitter Data. In Pinto, N. N., Tenedório, J. A., and Antunes, A. P. (eds.) *Technologies for Urban and Spatial Planning: Virtual Cities and Territories*. Hershey PA: Information Science Reference, pp113-134.

Ofcom (2014) *The Communications Market Report*. London: Ofcom.

Paay, J. and Kjeldskov, J. (2011) Bjørnetjeneste: Using the city as a backdrop for location-based interactive narratives. In Foth, M. *et al*., (eds.) *From Society Butterfly to Engaged Citizen: Urban Informatics, Social Media, Ubiquitous Computing and Mobile Technology to Support Citizen Engagement.* Massachusetts, CA: MIT, pp253-273.

Palmer, C. and Lester, J. (2013) Maps, Mapping and Materiality: Navigating London. In Lester, J., and Scarles, C. (eds.) *Current Developments in the Geographies of Leisure and Tourism: Mediating the Tourist Experience : From Brochures to Virtual Encounters*. Brookfield, VT.: Ashgate Publishing Ltd, pp237-254

Prieto, E. (2013) *Literature, Geography and the Postmodern Poetics of Place*. London: Palgrave Macmillan.

Rosenberg, E. (2012) Walking in the city: memory and place. *The Journal of Architecture*, 17 (1), pp131-149.

Sassen, S. (1991) *The Global City: New York, London, Tokyo*. Princeton, NJ: Princeton University Press.

Selby, M. (2004) *Understanding Urban Tourism, Image, Culture and Experience*. London: I. B. Tauris.

Sheller, M. and Urry, J. (2004) Places to play, places in play. In Sheller, M. and Urry, J. (eds)., *Tourism Mobilities. Places to Play, Places in Play*. London: Routledge, pp1-10.

Scheuerman, W. E. (2009) Citizen and Speed. In Rosa, H. and Scheuerman, W. E. (eds.) *High-Speed Society: Social Acceleration, Power and Modernity*. Pennsylvania: Pennsylvania State University, pp287-306.

Sheringham, M. (2010) Archiving. In Beaumont, M. and Dart, G. (eds.) *Restless Cities*.

London: Verso, pp1-17.

Simmel, G. (1997) *Simmel on Culture*. London: Sage.

Soja, E. (2000) *Postmetropolis: Critical Studies of Cities and Regions*. Malden: Blackwell.

Sorkin, M. (ed.) (1992) *Variations on a theme park: the New American City and the end of public place*. New York: Hill and Wang.

Tally Jr, R. T. (2013) *Spatiality*. London: Routledge.

Tenedório, J. A., Henriques, C. D., Rebelo, C., Marques, L., Estanqueiro, R., Goncalves, J. A. (2014) New Developments in Geographical Information Technology for Urban and Spatial Planning. In Pinto, N. N., Tenedório, J. A., and Antunes, A. P. (eds) *Technologies for Urban and Spatial Planning: Virtual Cities and Territories*. Hershey PA: Information Science Reference, pp196-227.

Till, K. (2005) *The New Berlin: Memory, Politics and Place*. Minneapolis: University of Minnesota Press.

UNFPA (2007) *State of World Population 2007: Unleashing the Potential of Urban Growth*. New York: UNFA.

Urry, J. (1998) How Societies Remember the Past. In MacDonald, S. and Fyfe, G. (eds.) *Theorising Museums*. Oxford: Blackwell, pp45-68.

Virilio, P. (1991) *The Last Dimension*. New York: Semiotexte.

de Waal, M. (2011) The Ideas and Ideals in Urban Media. In Foth, M., Forlano, L., Satchell, C. and Gibbs, M. (eds.) *From Society Butterfly to Engaged Citizen: Urban Informatics, Social Media, Ubiquitous Computing and Mobile Technology to Support Citizen Engagement.* Massachusetts, CA: MIT, pp5-20.

de Waal, M. (2014) *The City as Interface: How New Media are changing the City*. Rotterdam: nai010 Publishers.

Wearing, S. and Law, A. (2013) The Leisured Nature of Tourism: A Sociological Critique. In Blackshaw, T. ed., *Routledge Handbook of Leisure Studies*. London: Routledge, pp280-292.

Williams, K, and Mascioni, M. (2014) *Out-of-Home Immersive Entertainment Frontier : Expanding Interactive Boundaries in Leisure Facilities*. Farnham: Ashgate Publishing Ltd.

Wong, A. and Ling, R. (2011) Mobile Interactions as Social Machines: Poor Urban Youth at Play in Bangladesh. In Foth, M., Forlano, L., Satchell, C. and Gibbs, M. (eds.) *From Society Butterfly to Engaged Citizen: Urban Informatics, Social Media, Ubiquitous Computing and Mobile Technology to Support Citizen Engagement.* Massachusetts, CA: MIT, pp275-290.

Zhang, Y. (1996) *The City in Modern Chinese Literature and Film*. Standford: Standford University Press.